

Title (en)

Composite material including alumina-silica short fiber reinforcing material and aluminum alloy matrix metal with moderate copper and magnesium contents.

Title (de)

Verbundwerkstoff mit kurzen Tonerde-Silikatfasern als Verstärkungselement und eine Matrix, bestehend aus einer Aluminiumlegierung mit geringem Kupfer- und Magnesiumgehalt.

Title (fr)

Matériau composite comportant des fibres courtes alumine-silice comme matériau de renforcement et une matrice métallique d'un alliage d'aluminium avec des teneurs en cuivre et en magnésium peu élevées.

Publication

EP 0235574 A2 19870909 (EN)

Application

EP 87101213 A 19870129

Priority

- JP 1979386 A 19860131
- JP 4649886 A 19860304

Abstract (en)

A composite material is made from alumina-silica type short fibers embedded in a matrix of metal. The matrix metal is an alloy consisting essentially of from approximately 2% to approximately 6% of copper, from approximately 0.5% to approximately 3.5% of magnesium, and remainder substantially aluminum. The short fibers have a composition of from about 35% to about 80% of Al_2O_3 and from about 65% to about 20% of SiO_2 with less than about 10% of other included constituents, and may be either amorphous or crystalline, in the latter case optionally containing a proportion of the mullite crystalline form. The fiber volume proportion of the alumina-silica type short fibers is between approximately 5% and approximately 50%, and may more desirably be between approximately 5% and approximately 40%. If the alumina-silica short fibers are formed from amorphous alumina-silica material, the magnesium content of the aluminum alloy matrix metal may desirably be between approximately 0.5% and approximately 3%. And, in the desirable case that the fiber volume proportion of the alumina-silica type short fibers is between approximately 30% and approximately 40%, then the copper content of the aluminum alloy matrix metal is desired to be between approximately 2% and approximately 5.5%.

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C22C 1/09

IPC 8 full level

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CPC (source: EP US)

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